

INSTITUTE OF ENGINEERING AND TECHNOLOGY

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# **DEPARTMENT OF CIVIL ENGINEERING**

### **GUESTLECTURE ON**

# APPLICATION OF GEOSYNTHETICS IN CIVIL ENGINEERING

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## GUEST LECTURE ON APPLICATION OF GEOSYNTHETICS IN CIVIL ENGINEERING

### **Summary:**

Geosynthetics are synthetic products used to stabilize terrain. They are generally polymeric products used to solve civil engineering problems. This includes eight main product categories: geotextiles, geogrids, geonets, geomembranes, geosynthetic clay liners, geofoam, geocells and geocomposites. The polymeric nature of the products makes them suitable for use in the ground where high levels of durability are required. They can also be used in exposed applications. Geosynthetics are available in a wide range of forms and materials. These products have a wide range of applications and are currently used in many civil, geotechnical, transportation, geoenvironmental, hydraulic, and private development applications including roads, airfields, railroads, embankments, retaining structures, reservoirs, canals, dams, erosion control, sediment control, landfill liners, landfill covers, mining, aquaculture and agriculture.

Early papers on geosynthetics (as we know them today) in the 1960s documented their use as filters in the United States and as reinforcement in Europe. A 1977 conference in Paris brought together many of the early manufacturers and practitioners. The International Geosynthetics Society (IGS) founded in 1982 has subsequently organized a worldwide conference every four years and its numerous chapters have additional conferences. Presently, separate geosynthetic institutes, trade-groups, and standards-setting groups are active. Approximately twenty universities teach stand-alone courses on geosynthetics and almost all include the subject in geotechnical, geoenvironmental, and hydraulic engineering courses. Geosynthetics are available worldwide and the activity is robust and steadily growing.